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Solitary Splenic Metastasis of a Carcinoid Tumor of the Lung Eight Years Postoperatively

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The case of a 49-year-old male who was found to have a solitary splenic metastasis 8 years after undergoing right upper lobectomy for Stage 1 (pT1N0M0) bronchopulmonary carcinoid tumor and was treated by splenectomy is reported. Metastasis of bronchopulmonary carcinoid tumors to the spleen is very rare. However, it is important to bear in mind that there are patients with solitary splenic metastasis who have a favorable outcome. *J. Surg. Oncol. 1998;67:47–48.* © 1998 Wiley-Liss, Inc.

KEY WORDS: splenic metastasis; lung carcinoid; solitary metastasis; splenectomy

INTRODUCTION

Clinically evident carcinomatous metastasis to the spleen is very rare. We encountered a patient who was found to have a solitary splenic metastasis 8 years after upper lobectomy of the left lung for carcinoid tumor, and report the case below. There have been no reports of metastasis of carcinoid tumor of the lung to the spleen, and metachronous (asynchronous) splenic metastasis is of great interest oncologically.

CASE REPORT

A 49-year-old man was admitted to hospital in April 1995 because of sudden left upper quadrant pain. He had a history of right lobectomy for carcinoid tumor of the lung 8 years previously. The bronchopulmonary tumor was located in the right upper lobe, S3, and was 2.5 cm in diameter and spherical in shape. Histologically, it was well-circumscribed and immediately adjacent to the bronchial mucosa and cartilage. The tumor cells were columnar in appearance and predominantly arranged in a trabecular pattern. There was no nuclear atypism or mitoses. No lymph node metastasis was detected, and a diagnosis of stage 1 disease was made.

A computed tomography (CT) scan of the abdomen on admission at this time revealed a low density area in a portion of the spleen. Abdominal MRI showed a splenic mass that was high intensity on the T1-weighted images and low intensity on the T2-weighted images. Serum serotonin, urinary 5-hydroxyindoleacetic acid (5-HIAA), and other laboratory data were normal.

Splenectomy was performed in May 1995. There were no adhesions between the spleen and the surrounding organs, and no metastases to the liver, pancreas, or surrounding lymph nodes, were detected. The resected spleen weighed 100 g, the tumor was 25 mm in diameter, its boundary with the surrounding tissue was well defined, and the cut surface was reddish-brown. The splenic tumor was composed of uniform columnar cells arranged in somewhat trabecular structures (Fig. 1). The histological similarity between the bronchopulmonary tumor and the splenic tumor corroborated the diagnosis that the bronchopulmonary tumor had metastasized to the spleen. The results of special staining were as follows. None of the tumor cells stained positive by the Grimelius' method. Immunohistochemical reactions for chromogranin A and neuron-specific enolase were focally intense in the cytoplasm, but none of the tumor cells stained positive for carcinoembryonic antigen or epithelial membrane antigen.

The patient's postoperative course was uneventful, and there is no evidence of recurrence at the present time, 8 years after the operation.

DISCUSSION

Clinically evident carcinomatous metastasis to the spleen is considered rare and is usually only detected at

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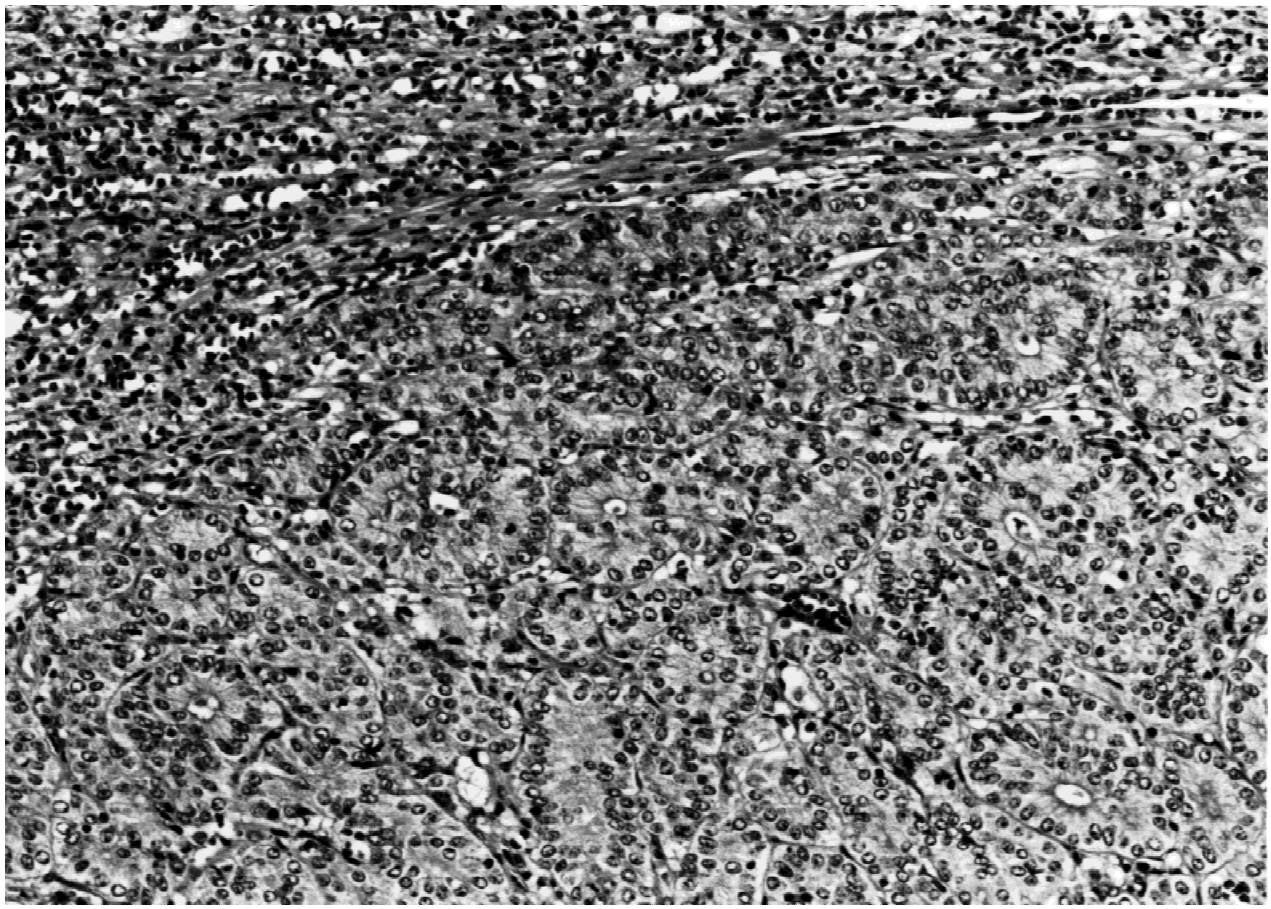

Fig. 1. Histological examination of the splenic tumor revealed metastatic carcinoid, forming a well demarcated mass without fibrous capsule (Hematoxylin-Eosin, ×50).

autopsy [1]. The spleen, as part of the reticuloendothelial system, is a rather common site of secondary involvement by hematopoietic malignancies such as chronic myelogenous leukemia [2]. By contrast, solitary splenic metastasis of solid tumors, particularly in the absence of lymph node metastasis and disseminated metastasis, is exceedingly rare. Although the frequency of splenic metastasis from lung cancer in reported autopsy cases ranges from 1% to 9% [3], solitary splenic metastases from lung cancer are extremely rare [2,4].

On the other hand, according to a compilation of reported cases by Soga [5], bronchopulmonary carcinoid tumor accounted for 286 (21.9%) of the total of 1,306 cases of carcinoid reported, with metastatic cases amounting to only 54 (18.9%) [5]. The principal sites of metastasis other than lymph nodes were liver, bone, and pancreas. There were no metastases to the spleen, and splenic metastasis was concluded to be extremely rare.

Although several hypotheses have been proposed to account for the low incidence of metastasis to the spleen in comparison with other parenchymatous organs [6], none of them satisfactorily explain the resistance of the spleen to metastatic involvement. Solitary splenic metastasis from carcinoid tumor is considered to be very rare. When solitary splenic metastasis is suspected in a clinical setting, aggressive treatment is indicated. However, it is necessary to be aware that there are cases of solitary metastasis, such as the present case, that have a favorable prognosis.

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